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From: Michael Amato <michael.amato@nasa.gov>

Subject: Riddle me this - and dont forget about today at 4 pm, bring any new information

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## Riddle me this:

## How is it we;

- Reduced the stresses by an order of magnitude.
- Reviewed and tweaked the analysis showing that reduction at least two times using other analysts.
- Removed from the potting process any variables we thought could change the stress from the nominal cases (centering, Mu metal variances, potting control etc)
- Qualified 9 of the new design from +45C to -40C and tested some to -60C, with no failures
- Ran our work through a review to look for problems

And with the latest tests see the same failure rate as before but over less of a temperature range (at lower stress), at least two of the 4 failures coming on the first cycle.

We will find something, just a oversimplified summary of our frustration.

By the way a question to ponder this afternoon. The question keeps coming up, is there a way to cycle the PMTs after potting and have any faith or be able to say anything intelligent about the future failure rate of PMTs that make it through say 4 initial cycles (the partial life test we will restart might tell us something eventually but I dont think the number of PMTs is high enough)

## Michael Amato